

Climactic Factors Affecting Tree Distribution

Climate

Information about **plant hardiness zones** is common in nursery catalogs, gardening books, seed packets, species recommendations, and plant labels. The USDA plant hardiness zone rating system describes a plant's ability to survive weather conditions. Eleven zones are assigned to North America.

Iowa is in two hardiness zones. Northern Iowa has minimum temperatures down to -30° F, so is in zone 4. Southern Iowa is in zone 5, with minimum temperatures above -20° F. Southwest Iowa also has an area of zone 4. Remember, it is better to select plants that are more cold tolerant than plants that are less cold tolerant.

Southeastern Iowa receives 38 to 40 inches of precipitation each year compared to northwestern Iowa's average precipitation of 26 inches.

Site Characteristics

Soils and growing conditions vary across the state depending on topographic position (upland, bottomland, slope, flat), and aspect—direction slopes face. Iowa has hundreds of different soils, each with unique characteristics. All of these site characteristics considered together determine whether a tree or shrub species will grow and/or reproduce.

Tree and shrub distribution tends to follow the environmental and climatic ranges across the state. Iowa has over 100 native trees and shrubs. Species diversity is greatest in southeast Iowa, with fewer kinds and numbers of trees in the northwestern part of the state.